A description of the male and egg of *Sipyloidea acutipennis* (Bates, 1865) (Diapheromeridae: Necrosciinae).

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Abstract

Sipyloidea acutipennis (Bates, 1865) was described from a single female from Ceylon (Sri Lanka). It is here recorded from three localities in India, and the male and egg are described and illustrated for the first time.

Key words

Phasmida, India, *Sipyloidea acutipennis* (Bates, 1865), description of male, description of egg

Introduction

Manchester Museum (MMUE) had a large number of phasmids in paper packets that had been collected in the 1950s. I examined and set a few of the smaller specimens in the 1990s but remainder stayed in their packets until they were set by Dr Yvonne Goulding in early 2006. I identified some of these specimens in 2006 as *Sipyloidea acutipennis* (Bates, 1865). A pair of specimens were taken to Oxford Museum (OXUM) and compared with the female holotype.

Necroscia acutipennis Bates, 1865 was described from a single female specimen from Ceylon (now known as Sri Lanka) and had not been recorded from elsewhere until I (Bragg, 2007) briefly mentioned material from Southern India. The male and egg of this species have not been described. Below I give the data for the Indian specimens and describe the male and egg of this species.

When Bates described the species he said "The wings are produced and acute at the apex." and gave it the specific name, *acutipennis* – meaning "pointed wings". However, this is misleading because, contrary to the description, wings are not pointed. The wings of the holotype are not fully spread, which gives a pointed appearance to the tip of the wing; when the wings of this species are fully opened they have a normal appearance.

The material recorded here is from the two southernmost states of India: Tamil Nadu and Kerala. The approximate latitude and longitude of these sites are given in table 1 and localities are plotted on the distribution map in red (figure 1).

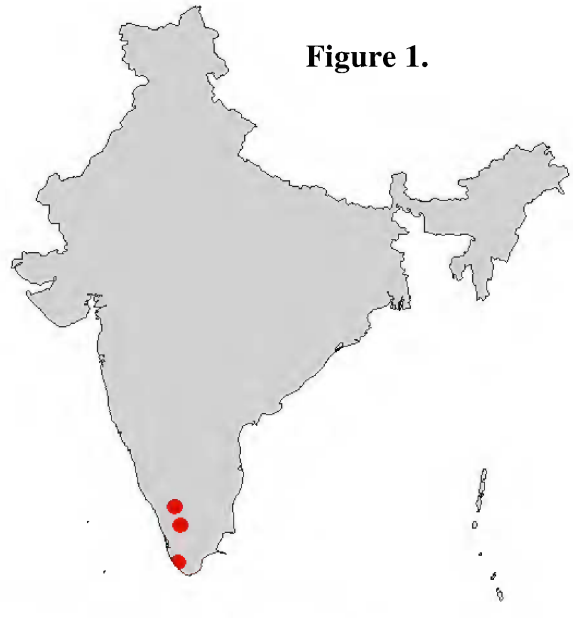


Figure 1.

Table 1. Distribution of *Sipyloidea acutipennis* within India.

State	Locality	Latitude & longitude
Kerala	Ponmudi Range	N08° 30' E77° 00'
Tamil Nadu	Cinchona, Anamalai Hills	N10° 20' E77° 00'
Tamil Nadu	Devla, Nilgiri Hills	N11° 30' E76° 30'

The generic position of this species in uncertain. Redtenbacher (1908: 550) placed the species in the genus *Sipyloidea* Brunner, 1893. However, cultured specimens of the type species, *Sipyloidea sipylus* (Westwood, 1859), glue their eggs to a substrate, this is not the case for many of the other 57 species that Redtenbacher placed in the genus. Eggs removed

from the body of *Sipyloidea acutipennis* do not seem to have a flattened ventral surface, which would be expected of eggs which are glued to a substrate, but they are not in perfect condition so this mode of laying cannot be ruled out.

***Sipyloidea acutipennis* Bates, 1865**

Necroscia acutipennis Bates, 1865: 354, pl. 45.5; Kirby, 1904: 375; Bragg, 2007: 4. Holotype ♀ (OXUM) Ceylon. coll. Nietner.

Sipyloidea acutipennis (Bates); Redtenbacher, 1908: 550; Otte & Brock, 2005: 316.

Material

South India, Kerala State, Trivandrum Dt., Ponmudi Range, 3,000ft, v.1972, TRS Nathan.
♂ (MMUE F3224.60)

South India, Anamalai Hills, 3500ft, iv.1965, P.S. Nathan.
♂ (MMUE F3224.82), ♀ (MMUE F3224.88), ♀ (MMUE F3224.279)

South India, Anamalai Hills, Cinchona, 3500ft., v. 1960, P.S. Nathan.
♀ (MMUE F3224.368), ♀ (MMUE F3224.280), ♂ (MMUE F3224.278).

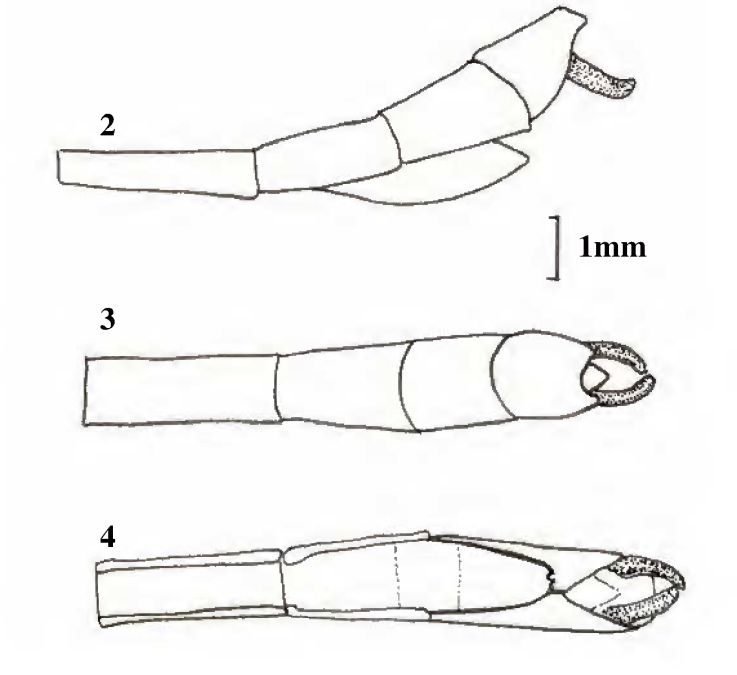
South India, Nilgiri Hills, Devala, 3200ft., x. 1960, P.S. Nathan.
♂ (MMUE F3224.358), ♀ (MMUE F3224.359), ♀ (MMUE F3224.360)

Descriptions and measurements

The following descriptions are based only on specimens F3224.280 and F3224.278.

Male (figs 2-4 & 6)

Head and body green with two longitudinal stripes on each side: one black, one white; the part of the abdomen that is covered by the wings is brownish. Legs green. Eyes brown. Viewed laterally, the male is green with a black and a white stripe running most of the length of the insect. There is a white stripe running from the back of each eye to the back of the head. The lateral margins of the mesonotum have a thin black line and there is a broader white stripe above this. The pronotum has some black on the lateral margins as do abdominal segments 7-9. Forewings green with a central longitudinal white stripe, the anterior half of the stripe has a narrow black stripe on each side. The costal region of the hindwing has a green leading edge, followed by a black stripe, white stripe, green stripe and then a brown stripe. Anal region clear or slightly pinkish, with greenish veins. Measurements are given in table 2.



Figures 2-4. Abdomen of male.
2. Lateral view.
3. Dorsal view.
4. Ventral view.

Head and body smooth, without any granules or tubercules; mesothorax with a very fine median longitudinal carina. Head and body extremely sparingly setose except abdominal sternites 7-9 which are moderately setose, and metanotum and abdominal terga 1-6 which lack setae. Antennae slender, clearly longer than the fore legs. Width of head (excluding eyes) about 5/6 of the length; eyes protruding laterally. Pronotum about 1.6 times longer than wide. Mesonotum slightly narrowing behind anterior margin, then widening evenly, posterior margin about 1.4 times width of anterior margin; length about five times width of posterior margin. Metanotum and abdominal segments 1-6 of about equal length (3-5 only very slightly longer), segment 7 is two-thirds as long as 6th, segments 8-9 half as long as 6th, segment 10 about one third as long as 6th. Tenth abdominal tergite with a notch, 11th forming a triangular protrusion. Poculum fairly shallow, with a minute apical notch. Cerci prominent, almost cylindrical, slightly tapering and strongly incurving near the apices.

Figures 5-6. *Sipyloidea acutipennis* (Bates, 1865). **5.** Female. **6.** Male.

Legs without spines (although some ventro-lateral carinae of the femora terminate as minute points); carinae densely setose, particularly on ventral carinae, setae reduced in number and size on dorsal surface of hind femora. Fore tibia and fore femur of almost equal length, mid and hind tibiae slightly shorter than corresponding femora. Each leg with tarsus about half as long as femur. Fore legs with basal tarsomere about as long as combined length of tarsomeres 2-5; mid and hind legs with basal tarsomere clearly shorter than combined length of 2-5. Forewings reaching end of metanotum, with a small conical hump. Wings reaching to apex of 6th abdominal segment.

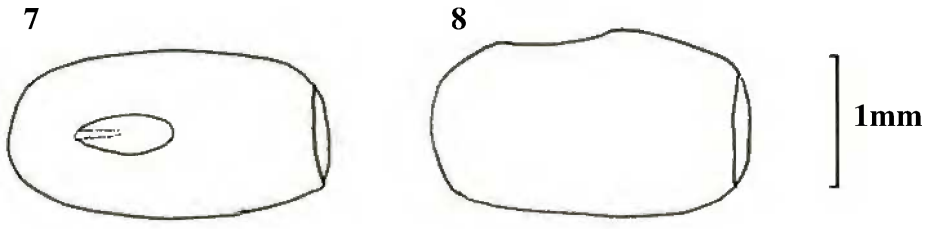
Female (fig 6)
Coloration generally similar to male but the stripes on the body are indistinct, and almost absent on the mesothorax. Forewings green with a central longitudinal white stripe, the anterior half of the stripe has a narrow black stripe on each side. Hind wings with subcostal and costal areas green, cubital and plical areas brown; anal region clear or slightly pinkish, with greenish veins. Measurements are given in table 2.

Head and pronotum as in male. Mesonotum widening slightly and evenly; length about four times the width of the posterior margin. Metanotum and abdominal segments 1-6 of roughly similar lengths; segments 7 & 8 each about two thirds as long as 5th; segments 9 & 10 each about half as long as 7th. Lamina supraanalis triangular. Operculum tapering to a point, reaching almost to apex of 10th tergite. Cerci long, slender, straight, narrowing evenly to a point. Legs similar to male except all tibiae are slightly shorter than the corresponding femur. Wings reaching slightly beyond apex of 6th segment.

Table 2. ***Sipyloidea acutipennis*** **(Bates, 1865).** Measurements in mm.

	♂	♀		♂	♀
Body length	51	75	Fore femur	16.1	20.1
Antennae	51	53+	Fore tibia	16.3	18.7
Head	2.3	3.9	Fore tarsus	8.1	9.0
Pronotum	2.4	3.5	Mid femur	11.6	13.1
Mesonotum	8.6	11.7	Mid tibia	10.5	10.6
Metanotum	3.1	5.3	Mid tarsus	5.5	6.1
Median segment	4.4	6.5	Hind femur	15.7	17.9
Fore wing	3.7	7.1	Hind tibia	14.8	15.8
Hind wing	29	45	Hind tarsus	7.7	7.5

Egg (figs 7-8)
Three eggs were removed from the body of specimen F3224.280. The eggs were full sized but the surface detail appears to be poorly developed and lacking any pigmentation. Capsule cylindrical, length 2.3mm, width 1.2mm, height 1.3mm. Micropylar plate oval and positioned slightly towards the polar end. Operculum slightly convex; oval, slightly higher than wide (0.85mm x 0.72mm).



Figures 7-8. Egg of *Sipyloidea acutipennis* (Bates, 1865)
7. Dorsal view. 8. Lateral view.

Acknowledgements

Thanks to Dr Dmitri Logunov (MMUE) for the loan of specimens and to Dr Yvonne Goulding for checking the data.

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